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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/004,258	10/24/2001	Dmitri Routkevitch	A52	3747

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EXAMINER

PERT, EVAN T

ART UNIT

PAPER NUMBER

2829

DATE MAILED: 04/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/004,258

Applicant(s)

ROUTKEVITCH ET AL.

Examiner

Evan T. Pert

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,6-12,17-20,27,29 and 34-48 is/are pending in the application.
- 4a) Of the above claim(s) 34-37 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27,29 and 48 is/are allowed.
- 6) ☒ Claim(s) 1,12,17-20 and 40 is/are rejected.
- 7) ☒ Claim(s) 2,6-11,38,39 and 41-47 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election without traverse of Species I in Paper No. 6 is acknowledged. According, claims 34-37, drawn to Species II are withdrawn from consideration.

***Claim Objections***

2. Claim 7 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim (since "the group" consisting of "metals and non-metals" seemingly includes everything recited in the parent claim). Applicant is required to cancel the claim, or amend to place the claim in proper dependent form, or rewrite the claim in independent form, or explain why the recitation is "further limiting."

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 39 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention:

Claim 39 is a so-called "product-by-process" claim wherein *structure* is limited by the fact that the structure was "annealed." However, the fact that the structure in this case was "annealed" does not seem to define observable patentably distinguishable structure in this "device" claim [see MPEP 2113].

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 12, 40 and 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Moskovits et al. (U.S. 5,581,091).

Regarding claim 1, Moskovits et al. disclose a "device" (i.e. "single-electron devices") comprising: a nanostructured AAO substrate with substantially parallel pores (cover figure in view of col. 2, line 2-3); wherein each side of the substrate has deposited layers as "electrodes" (26 and 10 in the cover figure).

Regarding claim 12, Moskovits et al., a 250A aluminum oxide insulating layer is disclosed (cover figure).

Regarding claims 17-20, the dimensions are disclosed in the cover figure, with routine experimentation expected [col. 5, lines 21-23].

Regarding claim 40, the device is inherently a "ceramic microdevice."

***Allowable Subject Matter***

5. Claims 27, 29 and 48 are allowed.

6. Claims 2, 6, 8-11, 38 and 41-47 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 27 and 29, the prior art does not disclose applicant's claimed methodology for "making a device" in the manner of "micromachining" as claimed.

Regarding claims 11 and 48, the prior art does not disclose a device comprising an AAO substrate and that "functions as a microheater" or "comprises a microheater."

Regarding claim 2, the prior art does not disclose the claimed AAO substrate with layers on both sides, at least one acting as an electrode wherein the device is a "sensor."

Regarding claims 6 and 8-10, the prior art does not disclose the particularly claimed materials for sensing as applied to the pores of the device of claim 1.

Regarding claim 41, the prior art does not disclose the device with AAO substrate and layers on both sides, at least one as an electrode, wherein the "device is an array."

Regarding claims 38, 42, 43, 44, 45, 46 and 47, the prior art does not disclose the particularly claimed applications of the claimed device with AAO substrate having layers on both sides, and at least one acting as an electrode.

**Conclusion**

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Evan T. Pert whose telephone number is 703-306-5689. The examiner can normally be reached on M-F (7:00-3:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on 703-308-1233. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

ETP  
March 23, 2003

  
EVAN PERT  
PATENT EXAMINER